WEATHER CONDITIONS ON THE NORTH ATLANTIC DURING MAY, 1916.

The data presented are for May, 1916, and comparison and study of the same should be in connection with those appearing in the REVIEW for that month. Chart IX (XLV– 50) shows for May, 1916, the averages of pressure, temperature, and the prevailing direction of the wind at 7 a. m., 75th meridian time (Greenwich mean noon), together with notes on the locations and courses of the more severe storms of the month.

PRESSURE.

The distribution of the average monthly pressure as shown on Chart IX differed but slightly from the normal, although the circulation of the air was somewhat more sluggish and the barometric gradients weaker than usual in May. The North Atlantic or Azores HIGH, with a crest of 30.15 inches, was central about 10 degrees east of its usual position, while over the western division of the ocean the average pressure for the month was near the normal. An area of low pressure surrounded by an isobar of 29.8 inches covered a large part of the area between the 45th and 55th parallels and the 30th and 55th meridians. The lowest average pressure for any 5-degree square was 29.75 inches and occurred in the square between latitudes 50°–55° and longitudes 45°–50°, where the lowest individual pressure was 29.36 inches on the 13th and the highest 30.32 inches on the 23d. The highest average pressure reading was 30.18 inches in each of the two squares between latitudes 30°–35° and longitude 20°–30°, the lowest reading being 29.79 inches on the 1st and the highest 30.39 inches on the 26th. Over some portions of the northern waters there was a marked variation in the pressure from day to day, and the averages for the three decades of the month differed considerably in some squares while in others the pressure was comparatively uniform. In the square between latitudes 60°–65° and longitudes 20°–25° the average for the first decade was 30.12 inches; the second, 29.82 inches, and for the last 11 days, 29.77 inches. In the square between latitudes 60°–65° and longitudes 5°–10° west the figures were as follows: First decade, 29.87 inches; second, 29.96 inches; and last 11 days, 29.91 inches. In the square between 60°–65° and longitude 0°–5° east they were: First decade, 29.80 inches; second, 29.97 inches; and last 11 days, 29.99 inches. In the vicinity of the Azores HIGH the pressure during the last decade was considerably higher than during the first two, while in the waters adjacent to the American coast and in the Gulf of Mexico there was comparatively little variation during the month.

GALES.

The number of gales reported during the month was considerably less than usual with the exception of a limited area between the 35th and 40th parallels, and the 50th and 65th meridians, where they occurred on two days, a percentage of 6 which is practically normal. While there were a number of cyclonic disturbances during the month, most of them were of light intensity, not well developed, and irregular in movement. In consequence of this condition only one storm track is shown on the chart.

On April 30 a LOW (I in Chart IX) was central near latitude 34°–longitude 70°, while northerly and northeasterly gales of from 40 to 65 miles an hour prevailed along the American coast between the 32d and 36th parallels, the storm area extending as far east as the 69th meridian. This disturbance moved rapidly in a northeasterly direction, and May 1 the center was near latitude 40°, longitude 57°; in the western quadrants northeasterly gales of 55 miles an hour were encountered, while in the region between the 67th meridian and the American coast light variable winds prevailed. This LOW then curved sharply toward the north, and on the 2d the center was near St. Johns, N. F., where the barometric reading was 29.36 inches. The force of the wind had increased slightly from that of the previous day, and fog occurred at a number of widely separated localities between the 45th and 60th meridians. From the 3d to the 5th a fairly well developed LOW covered the waters adjacent to the European coast between Gibraltar and the English Channel, while two vessels between the 45th and 50th parallels and the 14th and 17th meridians reported moderate to strong northerly gales. On the 6th this area was central on the west coast of England and covered a large portion of the North Sea, extending nearly to the Scandinavian Peninsula. This LOW was of slight intensity and remained practically stationary until the 10th, when the center was apparently somewhere over northern Europe, not shown within the limits of the chart. During this period light to moderate winds were the general rule over this area of low pressure, although a few reports of moderate gales were received.

Between May 6 and 12 a second shallow depression occupied the area in the vicinity of St. Johns, N. F., its movement between these dates being slight and irregular. In this period light to moderate winds prevailed over the entire western division of the ocean, while fog occurred off the Banks of Newfoundland and along the American coast as far south as the 38th parallel. On the 13th this LOW covered a large area in mid-ocean north of the 50th parallel, while westerly gales were reported from a limited area between the 40th and 45th parallels. From the 14th to the 16th the barometric conditions remained practically unchanged, and light to moderate winds prevailed over the entire ocean. On the 16th a second LOW of slight intensity was central near Wilmington, N. C.; the force of the wind remained moderate and fog occurred off the New Jersey coast. This LOW moved rapidly in a northerly direction, and on the 17th the center was about 100 miles east of New York. The wind had increased somewhat in force since the previous day, although no specially high velocities were reported. The storm continued slowly in its northerly movement, weakening in intensity as it progressed, and on the 18th the center was apparently somewhere over eastern Canada, although it was impossible to locate it accurately on account of lack of observations.

From the 18th to the 26th there was no well-defined movement of any high or low areas; the atmospheric conditions were exceptionally stagnant with weak gradients and light to moderate winds, while fog was reported from a number of scattered localities. On the 27th a LOW was central near latitude 44° and longitude 57°; the winds were moderate in force and fog covered a limited area near the center. This disturbance moved slowly in a northeasterly direction, and on the 28th the center was near St. Johns, N. F.; where the barometer reading was 29.48 inches. The conditions of wind and weather were practically the same as on the previous day, and fog continued along the American coast between Hatteras and the Delaware. During the next 24 hours the easterly movement of this LOW was slight, as on the 29th the center was only about 250 miles east of its position on the previous day. It then curved sharply toward the northeast, and on the 30th the center was near latitude 52°,

longitude 41°. On both the 29th and 30th the winds were for the most part of little force, although on the latter date one vessel near latitude 46°, longitude 34°, encountered a southerly gale of 50 miles an hour.

TEMPERATURE.

The average temperature of the air over the greater part of the ocean during May, 1916, was somewhat above the normal. The greatest positive departure, 4 degrees, occurred over a limited area in the northwestern division and in the Gulf of Mexico, while between latitudes 25°–30° and longitudes 45°–70° the departures were slightly negative. The temperature departures at a number of Canadian and United States Weather Bureau stations on the Atlantic and Gulf coasts were as follows:

	°F.		°F.
St. Johns, N. F.	+1.3	Norfolk, Va.	+3.0
Sydney, C. B. I.	+0.8	Hatteras, N. C.	+2.3
Halifax, N. S.	0.0	Charleston, S. C.	+2.0
Eastport, Me	+0.7	Key West, Fla.	−0.1
Portland, Me	−1.1	Tampa, Fla.	+1.2
Boston, Mass.	+2.0	New Orleans, La.	+2.6
Nantucket, Mass.	−1.0	Galveston, Tex.	−0.4
Block Island, R. I.	0.0	Corpus Christi, Tex.	0.0
New York, N. Y.	+0.5		

The lowest individual temperature reading reported during the month was 42° F., which occurred on three different days in the 5-degree square that includes the east coast of Labrador, and also in the square between latitudes 55°–60° and longitudes 40°–45°. The highest temperature for the same squares was 48°, which was reported on two days.

FOG.

Off the Banks of Newfoundland, where the maximum amount of fog usually occurs, the number of days on which it was observed during the month was somewhat below the normal, and the same conditions held true over the middle and eastern sections of the steamer lanes. In the 5-degree square immediately east of Nantucket Island fog was observed on 12 days, a percentage of 39, the normal for that region being 30 per cent. Along the American coast between the 35th and 40th parallels it also occurred somewhat oftener than usual.

HAIL AND SNOW.

Hail was reported by one vessel on May 25 near latitude 52°, longitude 8° west, and again on the 26th about 8° west of that position. No reports of snow during the month were received.

Winds of 50 miles per hour (22.4 m./sec.) or over during May, 1917.

Station.	Date.	Velocity.	Direction.	Station.	Date.	Velocity.	Direction.
		Mis./hr.				*Mis./hr.*	
Block Island, R.I.	5	56	ne.	Mt.Tamalpais,Cal.	24	62	nw.
Buffalo, N. Y.	1	56	sw.	Do.	25	72	nw.
Do.	19	54	w.	Nantucket, Mass.	5	60	ne.
Do.	22	52	sw.	New York, N. Y.	2	50	nw.
Do.	23	66	sw.	Do.	10	58	nw.
Do.	24	64	sw.	Do.	11	56	nw.
Chattanooga, Tenn	22	53	sw.	Norfolk, Va.	28	62	s.
Columbus, Ohio.	24	51	w.	Pierre, S. Dak.	20	53	ne.
Detroit, Mich.	1	55	w.	Pittsburgh, Pa.	22	52	sw.
Do.	19	54	w.	Point Reyes			
Drexel, Nebr.	25	51	e.	Light, Cal.	14	53	nw.
El Paso, Tex.	26	53	w.	Do.	6	60	nw.
Do.	29	60	sw.	Do.	7	74	nw.
Fort Smith, Ark.	27	50	sw.	Do.	8	50	nw.
Grand Haven,				Do.	9	61	nw.
Mich.	1	53	w.	Do.	16	50	nw.
Helena, Mont.	15	55	sw.	Do.	19	55	nw.
Indianapolis, Ind.	23	50	w.	Do.	20	57	nw.
Lexington, Ky.	22	56	sw.	Do.	21	63	nw.
Louisville, Ky.	9	59	nw.	Do.	22	61	nw.
Do.	22	54	w.	Do.	23	59	nw.
Do.	27	61	s.	Do.	24	72	nw.
Minneapolis, Minn	18	53	sw.	Do.	25	56	nw.
Modena, Utah.	15	50	sw.	Do.	30	50	nw.
Mt.Tamalpais,Cal.	4	52	nw.	Portland, Me.	14	(*)	nw.
Do.	5	78	nw.	Do.	20	(*)	nw.
Do.	6	92	nw.	Do.	26	(*)	nw.
Do.	7	76	nw.	Do.	29	(*)	ne.
Do.	9	68	nw.	Providence, R. I.	10	50	nw.
Do.	14	54	nw.	Do.	25	55	nw.
Do.	15	61	nw.	St. Louis, Mo.	30	50	s.
Do.	17	50	nw.	Sand Key, Fla.	6	54	n.
Do.	18	60	nw.	Do.	7	68	sw.
Do.	19	64	nw.	Sioux City, Iowa.	18	54	w.
Do.	21	72	nw.	Toledo, Ohio.	1	58	sw.

* Wind velocities at Baltimore, Md., and at Portland, Me., have been in error for some time past. A table of correct values is in preparation.—EDITOR.